

Remarks

The Applicant has submitted a Request for Continued Examination. Claims 1 and 3-7 remain pending, while new claims 8-11 are added. Please cancel claim 2. Claims 1, 3 and 5 are amended. A drawing figure is amended.

The Examiner objected to the drawings, stating that Fig. 1 should be labeled as “prior art.” Applicant submits herewith a replacement drawing sheet labeling Fig. 1 as “Prior Art.”

Claims 1-3 and 5-7 were rejected under 35 U.S.C. § 102(b) as being anticipated by Coplan et al. ‘756. The rejection is respectfully traversed. The Examiner has equated the pipe 104 in the Coplan device with the “feed-through conduit” of the claimed invention. Applicant disagrees. The central pipe 104 of Coplan et al. is disclosed to be a “structural” component whose function is to take the place of the segmented retainers 30, 84. Coplan et al., col. 2, lines 56-60; col. 3, lines 15-17; and especially col. 4, lines 6-9. That the pipe 104 is not a feed-through conduit is evident from the fact that Coplan et al. state that “[i]n the embodiment of Fig. 7, however, three pipes 106, 108, 110 are *within pipe 104* with pipe 106 providing the feed and pipes 108 and 110 respectively providing the output for permeate and concentrate.” Coplan et al., col. 4, lines 10-14 (emphasis added). Applicant submits that there can be no “feed-through” function for Coplan’s pipe 104 if it has another pipe 106 inside it that is providing the feed. The rejection of claim 1 as being unpatentable over Coplan et al. thus is traversed.

The rejection of claims 3, 5, and 6 as being anticipated by Coplan et al. is additionally and separately traversed. These claims are directed to the embodiment illustrated in Fig. 5 of the application. (Also see module 102 in Fig. 2, described at, for example, page 9, line 30 through page 10, line 8 of the specification.) In this embodiment, the feed-through conduit is annular in cross-section, and effectively surrounds a membrane compartment rather than running through its interior. Coplan’s pipe 104 plainly cannot be a “feed-through conduit annularly surrounding the membrane compartment” as claimed in claim 3. The rejection of claim 3 over Coplan et al. is fully traversed. Claims 5 and 6 depend from claim 3, and are likewise allowable.

Nevertheless, to expedite favorable prosecution, the claims are amended. As amended, the claims are allowable over the art of record.

Claim 1 is amended to recite

at least one of the membrane modules comprises *a permeate discharge compartment and at least one feed-through conduit in fluid communication with said permeate discharge compartment*, said conduit comprising a pipe located inside the membrane compartment and extending substantially in the longitudinal direction throughout the length of the membrane module . . .

(Emphasis added). Coplan et al. do not teach or suggest having a “permeate discharge compartment” that is in fluid communication with the “feed-through conduit.” Claim 1 as amended is allowable under 35 U.S.C. § 102(b).

It should be noted that claim 1, as thus amended, is directed to the embodiment of the invention depicted in Figs. 3 and 4 of the application’s drawing figures (also the module 101 seen in Fig. 2). In this embodiment, the feed-through conduit is located “inside the membrane compartment.” But because Coplan et al. do not suggest having the feed-through conduit in fluid communication with a permeate discharge compartment, claim 1 is allowable.

Claim 2 has been cancelled, and its subject matter imported into claim 1. Claims 3-7 depend from claim 1, and thus are allowable.

Claims 3 and 5 are amended only to provide additional clarity. Claims 3, 5 and 6 are directed to an embodiment of the apparatus having two feed-through conduits – a conduit inside the membrane compartment, and a second, annular feed-through surrounding the compartment.

The Examiner opined, regarding claims 3 and 5, that “the disclosed sleeve or liner flow-limiting element 11 (column 3, lines 41-48) [of Coplan et al.] defines a conduit or is capable of doing so.” Applicant respectfully but earnestly disagrees. The Copeland device cannot have an annular flow-through conduit (e.g. feed flow between the fiber bundles 12, 14, 18, or 19 and the liner 11). Such a longitudinal feed flow outside the bundles and inside the liner 11 is totally prevented in the Copeland device by the presence of the vinyl bases 20 and 80 (which contact the liner 11), the backup disks 28 and 82, and the segmented retainers 30 and 84, which effectively seal against annular flow. (See Copeland Figs. 2 and 5).

Claim 4 was rejected as being unpatentable over Coplan et al. in view of Eckman. However, Eckman does not supply the disclosure absent from Coplan et al., as described above.

As claim 4 depends from claim 1 as amended, claim 4 is allowable for the reasons claim 1 is allowable as explained herein above.

New claims 8-11 have been added. Claims 8-11 are specific to the embodiment of Fig. 5 of the application's drawing figures (also see module 102 in Fig. 2), that is, the embodiment having a feed-through conduit 150 that is annular, surrounding the membrane compartment. As further recited in claim 9, in this embodiment the filter housing 110 and the wall of the pressure vessel 200 define the walls of the annular feed-through conduit 150. (Feed stock thus flows around and past the membrane compartment.) Coplan et al. do not teach or suggest a feed-through conduit of such a configuration. (See the discussion above regarding the patentability of claim 3.) Claims 8-11 thus are allowable over the art of record.

The subject matter of the various claims was commonly owned at all relevant times. However, during its pendency, this application was assigned to a large entity; Applicant *disclaims* small entity status.

Claim 1, as amended, and claim 8 are allowable over the applied references, as are the dependent claims. Early allowance is respectfully solicited. In the event the Examiner has suggestions concerning the early resolution of this matter, he is invited to call the undersigned.

Respectfully submitted,

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Attachment: Amended drawing Fig. 1

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Amendments to the Drawing Figures:

Please amend Figure 1 to add the label “Prior Art.” A proposed replacement drawing sheet is submitted herewith.